PATENT COOPERATION TREATY



PCT

TO: SOIENTFIC-ATLANTA, INC. Attn. Lafferty, Brook W. Intellactual Property Department 5000 Sugarios Farkway Lawrenceville, GA 30046 #TATS-UNES O'AMERIQUE	NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION					
	(PCT Rule 44.1)					
	Date of mailing (day/month/year) 19/02/2007					
Applicant's or agent's file reference						
F-10410-PC	FOR FURTHER ACTION See paragraphs 1 and 4 below					
International application No.	International filing date					
PCT/US2006/033965	(day/month/year) 31/08/2006					
Applicant SCIENTIFIC-ATLANTA, INC.						
The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.						
Filling of amendments and statement under Article 19:						

2. The applicant is bretchy notified that no International search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. With requer'd to the proteet against payment of (an) additional fee(a) under Pulu 40.2, the applicant is notified that:

From the INTERNATIONAL SEARCHING AUTHORITY

the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to toward the texts of both the protest and the decision hereon to the designated Offices.

no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

minders

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international Search Report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Fascimile No.: (41-22) 338.82-700. For more detailed instructions, see the notes on the accompanying sheet.

Shortly after the excitation of 18 months from the priority date, the international application will be published by the international Burnau. The applicant variable to mode or persone publication, a notice of withdrawed of the international survey of the priority claim, must reach the international Burnau as provided in Rules 90bit 1 and 90bit 3, respectively, below the completion of the technical preparations for themsalonsia publication. The applicant may submit comments on an informal beate on the written opinion of the International Searching Authority to the international previous. The international Burnau will send oncy of such comments to all designated Officer unless an international previous properties of the comments and accomments of the comments of the commen

the public but not before the expiration of 30 months from the priority date.

Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filled if the expicitant wishes to positione the entity into the national phase until 30 months from the priority date (in some Offices even later); otherwise, the applicant must, within 20 months from the priority date, perform the prescribed acts for entry in other national phase before those designated Offices.

In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the PCT Applicant's Guide, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the international Searching Authority	Authorized officer
European Petent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Chantal Flohr

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference F - 10410 - PC	FOR FURTHER ACTION as we	see Form PCT/ISA/220 Il as, where applicable, item 5 below.			
International application No.	International filing date (day/month/year)	(Earliest) Priority Date (day/month/year)			
PCT/US2006/033965 31/08/2006 07/09/2005					
Applicant SCIENTIFIC-ATLANTA, INC.					
according to Article 18. A copy is being tra This international search report consists of					
X the international a	nternational search was carried out on the ba pplication in the language in which it was filed international application into				
of a translation fur	nished for the purposes of international search				
2. Certain claims were four	d unsearchable (See Box No. II)				
3. X Unity of Invention is lack	ing (see Box No III)				
With regard to the title, The text is approved as subtree text has been establish	emitted by the applicant and by this Authority to read as follows:				
5. With regard to the abstract,					
X the text is approved as sub the text has been establish may, within one month from	ed, according to Rule 38.2(b), by this Authori	ty as it appears in Box No. IV. The applicant ch report, submit comments to this Authority			
6. With regard to the drawings,					
X as suggested by the as selected by this	blished with the abstract is Figure No. <u>3</u> e applicant Authority, because the applicant failed to su; Authority, because this figure better characte	-			

INTERNATIONAL SEARCH REPORT

International application No PCT/US2006/033965

	N OF SUBJECT 7/173	

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) $H\theta 4L$

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
х	WO 02/097584 A (HYPERSPACE COMMUNICATIONS	1-16		
Y	INC [US]) 5 December 2002 (2002-12-05) paragraphs [0019] - [0022], [0030] - [0033]	20		
A	WO 01/77888 A2 (KONINKL PHILIPS ELECTRONICS NV [NL]) 18 October 2001 (2001-10-18) the whole document	1-16		
A	WO 2004/100500 A2 (THOMSON LICENSING SA [FR]; GRIMES KEVIN LLOYD [US]; BURNETT ANGELA REN) 18 November 2004 (2004-11-18)	1-16		
γ	the whole document	21		
A	US 2003/174243 A1 (ARBEITER JAMES HENRY [US] ET AL) 18 September 2003 (2003-09-18) the whole document	1-16		
	-/			

	-/
X Further documents are listed in the continuation of Box C.	X See palent family annex.
Special categories of clinid documents: A document design by special size of the six which is not considered to be of principal reservation. E saffer document by published on or after the international fling date. The design date is a six of the design of the published or princip date (a) or excitor is calculated or excitor in sufficient or excitor in the international filing date but later than the protring date clining.	These document published date the intermiscent filter data or price vides and not a feet of the speciation but chief to understand the principle of theory underlying the desiration to understand the principle of theory underlying the desiration of the principle
Date of the actual completion of the international search 1 February 2007	Date of mailing of the international search report 1.9. 02. 2007
Name and mailing address of the ISA/ European Pateral Office, P.B. 5818 Patentistan 2 Nt 2280 HT Piliprejk 16t. (+31-70) 340-3040, Tx. 31 651 epo nt, Fax: (+31-70) 340-3016	Authorizad officer Bertrand, Frédéric

INTERNATIONAL SEARCH REPORT

International application No PCT/US2006/033965

Continue	tion). DOCUMENTS CONSIDERED TO BE RELEVANT	
tegory*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
-	US 2005/160468 A1 (RODRIGUEZ ARTURO A [US] ET AL) 21 July 2005 (2005-07-21) cited in the application the whole document	1-16
	US 2004/133907 A1 (RODRIGUEZ ARTURO A [US] ET AL) 8 July 2004 (2004-07-08) cited in the application the whole document	1-16
	US 6 259 733 B1 (KAYE JAMES E [US] ET AL) 10 July 2001 (2001-07-10) column 7, lines 54-66	17-19, 28-30 20,21
	WO 2004/091219 A (KONINKL PHILIPS ELECTRONICS NV [NL]; WOOD KARL J [GB]; OWLETT TIMOTHY)	22,23
	21 October 2004 (2004-19-21) page 4, line 6 the whole document	24-27
	US 2003/219228 A1 (THIAGARAJAN BALAJI [US] ET AL) 27 November 2003 (2003-11-27) figure 5	22,23
	US 2003/221194 A1 (THIAGARAJAN BALAJI [US] ET AL) 27 November 2003 (2003-11-27) the whole document	22-32
	US 5 721 829 A (DUNN MATTHEW W [US] ET AL) 24 February 1998 (1998-02-24) the whole document	22-27
	EP 1 069 801 A1 (IBM [US]) 17 January 2001 (2001-01-17) the whole document	33-44
	US 2003/074214 A1 (KELLIHER TIMOTHY L [US]) 17 April 2003 (2003-04-17) the whole document	33-44

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2006/033965

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 02097584	A	05-12-2002	NONE			
WO 0177888	A2	18-10-2001	AT JP US	338307 2003533712 2001039572	Ť	15-09-2006 11-11-2003 08-11-2001
WO 2004100500	A2	18-11-2904	BR CN EP JP KR	P10410034 / 1784859 / 1620975 / 2006525771 20060038924 /	A A2 T	25-04-2006 07-06-2006 01-02-2006 09-11-2006 04-05-2006
US 2003174243	A1	18-09-2003	NONE			
US 2005160468	A1	21-07-2005	CA WO	2554208 / 2005071658 /		04-08-2005 04-08-2005
US 2004133907	A1	08-07-2004	US US	6986156 (2005071882 /		10-01-2006 31-03-2005
US 6259733	B1	10-07-2001	US	2001014121	A1	16-08-2001
WO 2004091219	Α	21-10-2004	NONE			
US 2003219228	A1	27-11-2003	US	2007031111 /	A1	08-02-2007
US 2003221194	A1	27-11-2003	NONE			
US 5721829	A	24-02-1998	NONE			
EP 1069801	A1	17-01-2001	DE DE US	69920893 1 69920893 1 6765873 E	T2	11-11-2004 09-03-2006 20-07-2004
US 2003074214	A1	17-04-2003	US	2003074480 /	11	17-04-2003

corrected version

INTERNATIONAL SEARCH REPORT

International application No. PCT/US2006/033965

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)
This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
Claims Nos: because they relate to parts of the international Application that do not comply with the prescribed requirements to such an extent that no meaningful international Search can be carried out, specifically:
Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box III Observations where unity of invention is lacking (Continuation of Item 3 of first sheet)
This International Searching Authority found multiple inventions in this international application, as follows:
see additional sheet
As all required additional search fees were timely paid by the applicant, this international Search Report covers all searchable claims.
 As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
Remark on Protest The additional search fees were accompanied by the applicant's protest. No protest accompanied the payment of additional search fees.

International Application No. PCT/ US2006/033965

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-16

optimizing bandiwdth utilization to a television subscriber premises, depending on the subscriber terminal capabilities, especially the display

2. claims: 17-32

optimizing bandwidth utilization to a television subscriber premises, depending on the program content type or theme (e.g. sports, cartoon)

3. claims: 33-44

optimizing bandwidth utilization to a television subscriber premises, by selecting and assessing the different communication paths available

PATENT COOPERATION TREATY

INTE	RNATIONAL SEARCHING AUTH	DRITY			
To: see form PCT//SA/220				PCT	
			WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43 <i>bis</i> .1)		
			Date of mailing (day/month/year) see form PCT/ISA/210 (second sheet)		
	icant's or agent's file reference form PCT/ISA/220		FOR FURTHER See paragraph 2 bek		
	national application No. T/US2006/033965	International filing date (d 31.08.2006	tay/month/year)	Priority date (deylmonth/year) 07.09.2005	
	mational Patent Classification (IPC) or 7. H04N7/173	both national classification	and IPC		
	icant ENTIFIC-ATLANTA, INC.				
H					
1.	This opinion contains indication	ons relating to the follo	owing items:		
1	Box No. I Basis of the op	inion			
i	☐ Box No. II Priority				
ı	☐ Box No. III Non-establishr	nent of opinion with rega	ard to novelty, inventi	ve step and industrial applicability	
1	Box No. IV Lack of unity o	f invention			
	applicability; ci	ement under Rule 43 <i>bis</i> tations and explanations	.1(a)(i) with regard to s supporting such sta	novelty, inventive step or industrial tement	
	☐ Box No. VI Certain docum				
	☐ Box No. VII Certain defects				
	☐ Box No. VIII Certain observ	ations on the internation	al application		
2.	FURTHER ACTION				
If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the international Eureau under Rule 66.1 bis(b) that written opinions of this International Searching Authority will not be so considered.					
	If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.				
	For further options, see Form PCT/ISA/220.				
3.	3. For further details, see notes to Form PCT/ISA/220.				
N					

this opinion

see form PCT/ISA/210

Bertrand, Frédéric Telephone No. +49 30 25901-406



European Patent Office - Gitschiner Str. 103 D-10958 Berlin Tel. +49 30 25901 - 0 Fax: +49 30 25901 - 840

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No. PCT/US2006/033965

-	Bo	x Ne	p. I Basis of the opinion
1.	Wit	h re	gard to the lenguage, this opinion has been established on the basis of:
	×	the	e international application in the language in which it was filed
			ranslation of the international application into , which is the language of a translation furnished for the rposes of international search (Rules 12.3(a) and 23.1 (b)).
2.			gard to any nucleotide and/or amino acid sequence disclosed in the international application and any to the claimed invention, this opinion has been established on the basis of:
	a. t	ype	of material:
	-		a sequence listing
	1		table(s) related to the sequence listing
	b. fe	orm	at of material:
	ı		on paper
	(in electronic form
	c. ti	me	of filing/lurnishing:
	t	3	contained in the international application as filed.
	(_	filed together with the international application in electronic form.
	Ε	_	furnished subsequently to this Authority for the purposes of search.
3.		ha	addition, in the case that more than one version or copy of a sequence listing and/or table relating there is been filed or lumished, the required statements that the information in the subsequent or additional less is identical to that in the application as filed or does not go beyond the application as filed, as propriate, were turnished.

4. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No. PCT/US2006/033965

-							
_	Во	x No. IV	Lack of unity of in	ventio	1		
1.	 In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has, within the applicable time limit: 						
	☐ paid additional fees						
			paid additional fees u	nder p	rotest and,	where applicable, the protest fee	
			paid additional fees u	nder p	rotest but th	the applicable protest fee was not paid	
			not paid additional fee	es			
2.			uthority found that the oblicant to pay additional		ment of uni	nity of invention is not complied with and chose not to invite	
3.	Thi	is Autho	ity considers that the r	equire	ment of unit	ity of invention in accordance with Rule 13.1, 13.2 and 13.3 is	
		complie	d with				
	×	not com	plied with for the follow	ina res	asons:		
			parate sheet				
4.	Co	nsequen	tly, this report has bee	n estal	olished in re	respect of the following parts of the international application:	
	⊠ .	all parts					
	ο.	the parts	relating to claims Nos	s.			
_		x No. V Justrial	Reasoned stateme	nt und	er Ruie 43 explanation	3bis.1(a)(i) with regard to novelty, inventive step or ons supporting such statement	
1.	Sta	tement					
	Nov	velty (N)		Yes: No:	Claims Claims	1-44	
	Inve	entive st	ep (IS)	Yes: No:	Claims Claims	1-44	
	indu	ustrial ap	oplicability (IA)	Yes: No:	Claims Claims	1-44	
2.	Cita	ations an	d explanations				
	\$00	separa	le sheet				



International application No.

PCT/US2006/033965

Re Item IV

This Authority considers that there are 3 inventions covered by the claims indicated as follows:

- I: Claims 1 to 16 directed to optimizing bandwidth utilization to a television subscriber premises, depending on the subscriber terminal capabilities, especially the display
- II: Claims 17 to 32 directed to optimizing bandwidth utilization to a television subscriber premises, depending on the program content type or theme (e.g. sports, cartoon)
- III: Claims 33 to 44 directed to optimizing bandwidth utilization to a television subscriber premises, by selecting and assessing the different communication paths available

The reasons for which the inventions are not so linked as to form a single general inventive concept, as required by Rule 13.1 PCT, are as follows:

The prior art has been identified as general knowledge and discloses: general purpose of optimizing scare resources, in this case bandwidth.

Subject 1: It follows that the following technical feature of claims 1 to 16 make a contribution over the prior art and can be considered as a special technical feature within the meaning of Rule 13.2 PCT:

ascertaining display attributes

The problem solved by this special technical feature can therefore be construed as: optimize bandwidth depending on terminal capabilities

Subject 2: It follows that the following technical feature of claims 17 to 32 make a contribution over the prior art and can be considered as a special technical feature within the meaning of Rule 13.2 PCT:

ascertaining content type

The problem solved by this special technical feature can therefore be construed as: optimize bandwidth depending on content

Subject 3: It follows that the following technical feature of claims 33 to 44 make a contribution over the prior art and can be considered as a special technical feature within the meaning of

International application No.

PCT/US2006/033965

Rule 13.2 PCT:

- tracking bandwidth utilization on multiple links

The problem solved by this special technical feature can therefore be construed as: optimize bandwidth in a system with multiple links

Also, examining the possible correspondence by technical effect, one finds that

- Subject 1: the technical effect of the first invention is to adapt the bandwidth to the display type,
- Subject 2: that the technical effect of the second invention is to adapt the bandwidth to the content type
- **Subject 3**: and that the technical effect of the third invention is to find the most appropriate path for transport

This appears to show lack of corresponding technical effect as well. Consequently, neither the objective problem underlying the subjects of the claimed inventions, nor their solutions defined by the special technical features allow for a relationship to be established between the said inventions, which involves a single general inventive concept.

In conclusion, the groups of claims are not linked by common or corresponding special technical features and define 3 different inventions not linked by a single general inventive concept.

The application, hence does not meet the requirements of unity of invention as defined in Rules 13.1 and 13.2 PCT.

International application No.

PCT/US2006/033965

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

A. WRITTEN OPINION FOR THE FIRST INVENTION CLAIMS 1-16

Reference is made to the following document:

D1: WO 02/097584 A (HYPERSPACE COMMUNICATIONS INC [US]) (2002-12-05)

----- [lack of novelty] ------

A.1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

The document D1 discloses (the references in parentheses applying to this document): optimizing bandwidth by adapting the stream depending on display characteristics (see e.g. D1, paragraph 30). The subject matte of claim is broad enough to embrace the disclosure of D1, and is therefore not new.

----- [dependent claims, negative assessment] ------

A.2. Dependent claims 2 to 16 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, see document D1 and the corresponding passages cited in the search report.

B. WRITTEN OPINION FOR THE SECOND INVENTION CLAIMS 17-32

Reference is made to the following document:

- D1: WO 02/097584 A (HYPERSPACE COMMUNICATIONS INC [US]) (2002-12-05)
- D3: WO 2004/100500 A2 (THOMSON LICENSING SA [FR]; GRIMES KEVIN LLOYD [US]; BURNETT ANGELA REN) 18 November 2004 (2004-11-18)
- D7: US 6,259,733 B1 (2001-07-10)
- D8: WO 2004/091219 A (2004-10-21)

International application No.

PCT/US2006/033965

 flack of	novelty	

B.1.1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 17 is not new in the sense of Article 33(2) PCT.

The document D7 discloses: adapting bandwidth (variable bit rate encoding and statistical multiplexing, abstract) based upon content type (depending on source parameters like spatial activity, abstract). A football match program would for instance naturally have more spatial activity than weather report program, which can be traced either automatically or manually. The scope of claim 17 is broad enough to embrace the disclosure of D7 and is therefore not new.

- B.1.2. The same applies to the subject matter of claim 28.
- B.1.3. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 22 is not new in the sense of Article 33(2) PCT.

The document D8 discloses a method for optimizing data rates, which, when a signal, being recorded and watched, is stopped being watched (in the case of D8 because of signal corruption), completes the recording by non real time download (replacement portions via second communication channel, abstract; non real time, page 4 line 6). The scope of claim 22 is broad enough to embrace the disclosure of D8 and is therefore not new.

- ----- [dependent claims, negative assessment] ------
- B.2.1. Dependent claims 18 to 19 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect or novelty, because they are also disclosed in D7 (see passages cited in the search report).
- B.2.2. The subject matter of **claim 20** is a mere juxtaposition of claim 17 an claim 1, without a surprising effect, and is therefore not inventive (see disclosure of D1 and D7).
- B.2.3. The same applies to the subject matter of claim 21 with juxtaposition of D7 and D3.
- B.2.4. Dependent claims 29 to 32 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of

international application No.

PCT/US2006/033965

novelty and/or inventive step, see document D8 and the corresponding passages cited in the search report.

The document D12 discloses: bandwidth evolution by monitoring oversubscription in one to many distribution. The independent claim 33 is broad enough to embrace the disclosure of D12, and the subject matter of **claim 33** is therefore not new.

C.1.2. The same applies to independent claim 42.

----- [dependent claims, negative assessment] ------

C.2. Dependent claims 34 to 41 and 43 to 44 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, see document D12 and the corresponding passages cited in the search report.

F.Bertrand